1. At a requesting computing system that is communicatively connectable to a providing computing system, the requesting computing system including requesting instructions that can attempt to interact with a providing application at the providing computing system, a method for providing information that can used to verify measurable aspects of the requesting computing system, the method comprising:

an act of performing at least one of determining that the providing computing system is appropriately configured to issue challenges to components included in the requesting computing system and determining that the providing application is appropriately configured to issue challenges to the requesting instructions;

an act of subsequently accepting a challenge that was initiated by the providing application based at least in part on the providing computing system and the providing application being appropriately configured to issue challenges to the requesting instructions; and

an act of submitting an assertion that that can be used to verify that the requesting instructions are configured in accordance with one or more measurable aspects that are appropriate for interacting with the providing application.

2. The method as recited in claim 1, wherein determining that the providing computing system is appropriately configured to issue challenges to components included in the requesting computing system comprises an act of establishing an SSL connection between the requesting computing system and the providing computer system.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

3. The method as recited in claim 1, wherein the act of determining that the providing application is appropriately configured to issue challenges to the requesting instructions comprises receiving proof that the providing application complies with one or more security and trust policies of the requesting computing system.

4. The method as recited in claim 1, wherein the act of subsequently accepting a challenge that was initiated by the providing application comprises an act of subsequently accepting a request for proof of the values of one or more measurable aspects of the requesting computer system.

5. The method as recited in claim 1, wherein the submitted assertion includes the values of one or more measurable aspects of the requesting computer system.

6. The method as recited in claim 1, wherein the submitted assertion indicates the identity of one or more portions of the requesting instructions.

7. The method as recited in claim 1, wherein the act of submitted assertion indicates an execution environment of the requesting code.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

8. At a providing computing system that is communicatively connectable to a requesting computing system, the providing computing system including a providing application that can attempt to interact with a requesting instructions at the requesting computing system, a method for verifying measurable aspects of the requesting computing system, the method comprising:

an act of performing at least one of proving that the providing computing system is appropriately configured to issue challenges to components of the requesting computing system and proving that the providing application is appropriately configured to issue challenges to the requesting instructions;

an act of subsequently causing a configuration challenge to be issued to the requesting instructions;

an act of receiving an assertion that can be used to verify that the requesting instructions are configured in accordance with one or more measurable aspects that are appropriate for interacting with the providing application; and

an act of validating the assertion.

9. The method as recited in claim 8, wherein the act of proving that the providing computing system is appropriately configured to issue challenges comprises an act of establishing an SSL connection between the providing computing system and the requesting computing system.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

10. The method as recited in claim 8, wherein the act of proving that the providing application is appropriately configured to issue challenges to the requesting instructions comprises an act of sending proof that the providing application complies with one or more security and trust policies of the requesting computing system.

11. The method as recited in claim 8, wherein the act of subsequently causing a challenge to be issued to the requesting computing system comprises an act of requesting proof of the values of one or more measurable aspects of the requesting computer system.

12. The method as recited in claim 8, wherein the act of receiving proof that the requesting instructions are appropriately configured for accessing the resource comprises an act of receiving proof of the identity of one or more portions of the requesting instructions.

13. The method as recited in claim 8, wherein the act of receiving proof that the requesting instructions are appropriately configured for accessing the resource comprises an act of receiving proof of the values of one or more measurable aspects of an execution environment at the requesting computer system.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

14. At a computing system that is communicatively connectable to a network, a method for generating a challenge and pre-computing answers to the challenge, the method comprising:

an act of accessing a first random value;

an act of accessing a secret value;

an act of using the first random value and the secret value as input to a first hash algorithm to generate a second random value;

an act of using the first random value and the second random value as input to a second hash algorithm to identify one or more regions within a portion instructions;

an act of retrieving values from the identified regions; and

an act of pre-computing an answer to the challenge based on the retrieved values.

15. The method as recited in claim 14, wherein the act of accessing a first random value comprises an act of accessing a seed nonce.

16. The method as recited in claim 14, wherein the act using the first random value and the secret value as input to a first hash algorithm to generate a second random value comprises using a seed nonce and the secret to generate a challenge nonce.

17. The method as recited in claim 14, wherein the act of using the first random value and the second random value as input to a second hash algorithm to identify one or

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

more regions within a portion instructions comprises an act of using a seed nonce and a challenge nonce as input to the second hash algorithm to generate a random bit stream.

18. The method as recited in claim 14, wherein the portion of instructions comprises a plurality of identified regions.

19. The method as recited in claim 14, wherein the computing system includes a challenge service, further comprising:

an act of receiving a request for a challenge that a provider can subsequently issue to a requester; and

an act of returning the identified one or more regions within a portion instructions and the values retrieved from the identified regions to the provider.

20. The method as recited in claim 14, wherein the computing system includes a challenge service, further comprising:

an act of receiving a response that was submitted to a provider as a response to a challenge generated by the challenge service, reception of the response indicating that the response was not a pre-computed answer to the challenge;

an act of verifying the response; and

an act of indicating to the provider that the response is valid.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

21. At a requester that is communicatively connectable to a provider, a method for authorizing the requester to interact with the provider, the method comprising:

an act of sending a request to the provider;

an act of receiving a configuration challenge from the provider, the configuration challenge indicating how the requester is to prove that the requester is appropriately configured to interact with the provider;

an act of sending proof of the values of one or more measurable aspects of the requester to the provider; and

an act of receiving a token that can be used to prove that the requester is appropriately configured.

22. The method as recited in claim 21, wherein the act sending a request to the provider comprises an act of sending a challenge along with the request, the challenge indicating how the provider is to prove that the provider is appropriately configured to issue configuration challenges to the requester.

23. The method as recited in claim 21, wherein the act of receiving a configuration challenge from the provider comprises an act receiving a configuration challenge along with proof that the provider is appropriately configured to issue configuration challenges to the requester.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

24. The method as recited in claim 21, wherein the act of sending proof of the values of one or more measurable aspects of the requester to the provider comprises an act of sending a challenge along with the proof of the values of one or more measurable aspects,

the challenge indicating how the provider is to prove that the provider is appropriately configured to issue configuration challenges to the requester.

25. The method as recited in claim 21, wherein an act of receiving a token comprises an act of receiving a token along with proof that the provider is appropriately configured to issue configuration challenges to the requester.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

26. At a provider that is communicatively connectable to a requester, a method for authorizing the requester and the provider to interact with the provider, the method comprising:

an act of receiving a request from the requester;

an act of causing a configuration challenge to be issued to the requester, the configuration challenge requesting proof that the requester is appropriately configured to interact with the provider;

an act of receiving proof of the values of one or more measurable aspects of the requester's configuration; and

an act of sending a token that can subsequently be used to prove that the requester is appropriately configured.

27. The method as recited in claim 26, wherein the an act of receiving a request comprises an act of receiving a challenge along with the request, the challenge requesting proof that the provider is appropriately configured to issue configuration challenges to the requester.

28. The method as recited in claim 26, wherein the act of causing a configuration challenge to be issued to the requester comprises an act of sending a configuration challenge along with proof that the provider is appropriately configured to issue configuration challenges to the requester.

29. The method as recited in claim 26, wherein the act of receiving proof of the values of one or more measurable aspects of the requester's configuration comprises an act

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

of receiving a challenge along with the proof of the values of the one or more measurable aspects, the challenge requesting proof that the provider is appropriately configured to issue configuration challenges to the requester.

30. The method as recited in claim 26, wherein that act of sending a token comprises sending a token along with proof that the provider is appropriately configured to issue configuration challenges to the requester.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

31. A computer program product for use in a computing system that is communicatively connectable to a network, the computer program product for implementing a method for generating a challenge and pre-computing answers to the challenge, the computer program product comprising one or more computer-readable media having stored thereon computer-executable instructions that, when executed by a processed, cause the computing system to perform the following:

access a first random value;

access a secret value;

use the first random value and the secret value as input to a first hash algorithm to generate a second random value;

use the first random value and the second random value as input to a second hash algorithm to identify one or more regions within a portion instructions;

retrieve values from the identified regions; and

pre-compute an answer to the challenge based on the retrieved values.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

32. A computer program product for use in a computing system having a requester that is communicatively connectable to a provider, the computer program product for implementing a method for authorizing the requester to interact with the provider, the computer program product comprising one or more computer-readable media having stored thereon computer-executable instructions that, when executed by a processed, cause the computing system to perform the following:

send a request to the provider;

receive a configuration challenge from the provider, the configuration challenge indicating how the requester is to prove that the requester is appropriately configured to interact with the provider;

send proof of the values of one or more measurable aspects of the requester to the provider; and

receive a token that can be used to prove that the requester is appropriately configured.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

33. A computer program product for use in a computing system having a provider that is communicatively connectable to a requester, the computer program product for implementing a method for authorizing the requester and the provider to interact with the provider, the computer program product comprising one or more computer-readable media having stored thereon computer-executable instructions that, when executed by a processed, cause the computing system to perform the following:

receive a request from the requester;

cause a configuration challenge to be issued to the requester, the configuration challenge requesting proof that the requester is appropriately configured to interact with the provider;

receive proof of the values of one or more measurable aspects of the requester's configuration; and

send a token that can subsequently be used to prove that the requester is appropriately configured.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111